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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,507	03/07/2002	Takashi Hakuta	ZU-410	6911

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EXAMINER

ZIMMER, MARC S

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/070,507	Applicant(s) HAKUTA ET AL.	
	Examiner Marc S. Zimmer	Art Unit 1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-52,65-88 and 91-104 is/are pending in the application.
- 4a) Of the above claim(s) 28-52 and 65-88 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4,6-8,10,15-18,21-26 and 92 is/are allowed.
- 6) ☒ Claim(s) 1,3,5,9,11-14,19,20,91 and 93-103 is/are rejected.
- 7) ☒ Claim(s) 104 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

The Examiner acknowledges with appreciation Applicant's submission of a copy of a translation of JP 5-112684. In view of the teachings therein, it is the position of the Examiner that the case is not yet in condition for allowance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 13, 19, 20, 95, 97-103 are rejected under 35 U.S.C. 102(b) as being anticipated by Shoji et al., JP 5-112684. Shoji discloses silyl group-functionalized olefin copolymers wherein one of the monomers employed in the preparation of the copolymer is silane-derivatized norbornene compound adhering to the structure of Chemical 4, formula (I) on page 6 of the translated document. To the copolymer are added various materials including silica, which has silanol groups on its surface, titanium dioxide, carbon black, other olefin rubbers and/or any of the materials mentioned on page 13, paragraph 14.

Concerning claim 20, this claim takes the form of a product-by-process claim. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process" *In re*

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Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). While it is acknowledged that the process by which the polymer disclosed by Shoji is made differs from that recited in the claim in the sense that the norbornene double bond is hydrosilylated prior to incorporating this compound into the polymer (whereas Applicant contemplates polymerizing norbornene with its co-monomers followed by hydrosilylation), the polymer products are, nonetheless, the same.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12, 91, 93-94, 96 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Shoji et al., JP 5-112684. Curiously, Shoji does not expressly mention adding a condensation catalyst. Nevertheless, these adjuvants are well known in the art for their ability to facilitate reaction between condensation-reactive groups such as those possessed by the diene polymer and silica surface. It is, likewise, known that the alkoxy groups bonded to the silicon atoms of the polymer are, along the pathway to condensation first hydrolyzed to silanol groups, which, of course requires water. "It is prima facie obvious to add a known ingredient to a known composition for its known function." *In re Lindner* 173 USPQ 356; *In re Dial et al* 140 USPQ 244.

Claims 5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Shoji et al., JP 5-112684 in view of Labauze, U.S. Patent # 5,821,290. It is notable that Shoji identifies exterior articles for automobiles among the products for which their composition is designed. Insofar as their invention is a diene rubber-based composition, tires are an obvious embodiment of the aforementioned articles.

Labauze laments that diene rubber compositions filled with silica and/or carbon black, while functional as manufacturing materials for the different components of tires, have an inadequate hysteresis property. They document an approach for improving this property by adding to an alkoxysilane-functionalized diene rubber containing carbon black and silica an amino-functional silane. (column 2, lines 1-43).

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over by Shoji et al., JP 5-112684 in view of Ishikawa et al., U.S. patent # 6,329,460. Ishikawa discloses a silica-filled diene rubber formulation (column 9, lines 7-16) for tire manufacturing that exhibits better workability in the unvulcanized state than do those of the prior art by adding thereto an alkoxy group-functionalized polysiloxane and alcohol of specified structure (bottom of column 2). Given the similarities between the rubber composition taught by Shoji and those described by Ishikawa, it is likely that the rubber compositions disclosed by the former would inherently suffer from the same appreciable increases in rubber viscosity upon adding silica and, hence, would be also expected to benefit from the addition of the aforementioned materials.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over by Shoji et al., JP 5-112684 in view of Yatsuyanagi et al., U.S. patent # 6,525,110. Yatsuyanagi

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identifies yet another problem associated with the compounding of diene rubbers with silica, that being the lowering of modulus and abrasion resistance (column 1, lines 54-67). They address this problem by adding a polysiloxane having particular structural attributes and a silane compound (column 2, lines 31-61). Exemplary of the polysiloxane and silane are the alkoxylated/carboxylated products of the organohydrogensiloxanes exhibited in column 5 and alkoxysilanes disclosed in column 6.

Allowable Subject Matter

Claims 4, 6-8, 10, 15-18, 21-26, and 92 are allowable over the prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc S. Zimmer whose telephone number is 571-272-1096. The examiner can normally be reached on Monday-Friday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Marc Zimmer
Marc Zimmer
AU 1712